R E M A R K S

I. INTRODUCTION

In response to the Office Action Applicants have amended the title to be more clearly indicative of the invention to which the claims are directed. Applicants have also amended claims 12 and 53, to recite a limitation whereby the elemental symbol width of the data received from the data path is equal to or narrower than the data path. Applicants respectfully submit that, based on the reasons that follow, amended claims 12 and 53, along with claims 13-32 and 54-61 dependent therefrom, are patentable over United States Patent No. 5,268,855 to Mason et al. ("the '855 patent").

II. THE PRESENT INVENTION IS PATENTABLE OVER THE '855 PATENT BECAUSE THE '855 PATENT LACKS ANY DISCLOSURE OR SUGGESTION OF THE DYNAMIC PARTITIONING AND PARALLEL PROCESSING OF A PLURALITY OF DATA STREAMS, THE WIDTH OF EACH DATA STREAM BEING EQUAL TO OR NARROWER THAN THE DATA PATH, AS RECITED IN INDEPENDENT CLAIMS 12 AND 53

The Office Action rejects claims 12-32 and 53-61 under 35 U.S.C. § 103(a) as being unpatentable over the '855 patent.

Claims 12 and 53 claim a programmable media processor and a parallel multi-processor system, respectively. Each of claims 12 and 53 recites an execution unit configurable to dynamically partition data according to the elemental width of each of a plurality of media data streams concurrently transmitted over a single data path. The execution units of claims 12 and 53

dynamically partition the data path, for simultaneous parallel processing of each of the plurality of media data streams. The present invention thereby performs parallel, multiple precision operations on a plurality of media data streams, each of a width up to the width of the data path.

The '855 patent discloses a technique for encoding multiple floating point data formats into a common format whereby the least significant bits of the exponent and mantissa of both single and double precision formats are aligned with each other, and a processor for performing floating point operations on the multiple floating point data formats. The processor of the '855 patent sequentially performs either single or double precision operations on the uniform data format. The '855 patent, however, lacks any disclosure or teaching of the dynamic partitioning of a plurality of data streams concurrently transmitted over a single data path for parallel processing, as presently claimed.

The Office Action further asserts that,

> it would have been obvious to one of ordinary skill in the art at the time of invention to modify Mason's system such that the media processor is operated at substantially peak rate during the system operation because it would have allowed the system to process the media information at much higher rate based on the requirements, thereby increasing the overall media information processing rate of the system and hence increase the overall performance of the system.

(Office Action, ¶ 22). Applicants respectfully traverse this assertion because the "substantially peak operation" of the

presently claimed media processor is achieved by the dynamic partitioning and parallel processing of the plurality of data streams concurrently transmitted over the data path. The processor operates at peak rates by performing parallel processing of multiple data streams utilizing the entire width of the data path. The '855 patent, however, simply provides a processor that converts data of variable formats into a uniform format for serial processing by an execution unit of reduced complexity. The processor of the '855 patent converts the variable formats of data by padding the data path with zeros, wasting bandwidth. The '855 patent, therefore, does not utilize the entire width of the data path, and lacks any teaching or suggestion of an architecture capable of attaining "substantially peak operation" by utilizing the full bandwidth of the data path, as claimed in the present invention. Accordingly, Applicants submit that the presently claimed architecture would not have been obvious to one of ordinary skill in the art at the time of invention in view of the '855 processor.

Therefore, Applicants submit that claims 12 and 53 are patentable over the '855 patent. Additionally, Applicants submit that claims 13-32 and 54-61, being dependent from patentable base claims 12 and 53, are also patentable over the '855 patent.

Accordingly, Applicants respectfully request that the § 103(a) rejection of claims 12-32 and 53-61 be withdrawn.

III. CONCLUSION

Having completely responded to the Office Action, Applicants submit that all pending claims are in condition for allowance, an indication for which is respectfully solicited..

Respectfully submitted,

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